

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A system for an AC electrical circuit, the system comprising:
 - an actuator that converts current into a force to move contacts relative to one another to switch power on and off in the AC electrical circuit;
 - a source that operates to supply current to the actuator; and
 - an actuator control system connected to the actuator and to the source to control the current to the actuator;

wherein the actuator control system includes a controller coupled to the actuator to control current through the actuator based on information about the actuator, the actuator information including one or more of position information and velocity information;

~~wherein the current to through the actuator is independent of a voltage produced by the actuator during switching and a voltage at which the source operates.~~
2. (Original) The system of claim 1 further comprising an amplifier that controls the current from the source to the actuator.
3. (Currently amended) The system of claim 2 ~~further comprising a~~ wherein the controller is connected to the source and the amplifier, and is configured to:
 - sense voltage from the source, and
 - provide information about the sensed voltage to the amplifier to control the current to the actuator.

4. (Original) The system of claim 1 in which the source operates at a voltage that is greater than the voltage produced by the actuator during switching.

5. (Original) The system of claim 1 in which the actuator converts the current into the force to move the contacts in a linear direction relative to one another.

6. (Original) The system of claim 1 in which the actuator switches power on and off in the AC electrical circuit by moving at least one of the contacts away from the other contact.

7. (Original) The system of claim 1 in which the contacts are connected to the AC electrical circuit such that when the contacts touch, current flows through the AC electrical circuit.

8. (Currently amended) The system of claim 1 in which the ~~actuator control system~~ comprises a controller that senses the voltage provided by the voltage source.

9. (Currently amended) The system of claim 1 further comprising control circuitry connected to the ~~contacts~~ AC electrical circuit; in which control of the actuator current is based on information from the control circuitry.

10. (Currently amended) A method for controlling an actuator connected to an AC electrical circuit to interrupt current, the actuator being configured to convert current into a force to move contacts relative to one another to switch power on and off in the AC electrical circuit, the method comprising:

supplying power to an actuator;

sensing one or more of position information and velocity information relating to the actuator; and

controlling current ~~to~~ through the actuator based on the sensed information about the actuator such that the current ~~to~~ through the actuator is independent of ~~a voltage produced by the actuator during switching and~~ a voltage at which the power is supplied.

11. (Currently amended) The method of claim 10 further comprising:
sensing the voltage at which power is supplied to the actuator, and
providing information about the sensed voltage to control the current to the actuator.
12. (Original) The method of claim 10 in which the power is supplied at a voltage that is greater than the voltage produced by the actuator during switching.
13. (Original) The method of claim 10 in which the actuator switches power on and off in the AC electrical circuit by moving at least one of the contacts away from the other contact.
14. (Original) The method of claim 10 in which the contacts are connected to the AC electrical circuit such that when the contacts touch, current flows through the AC electrical circuit.
15. (Original) The method of claim 10 further comprising sensing the voltage at which power is supplied to the actuator.
16. (Currently amended) The method of claim 10 in which control of the actuator current is based on information from ~~the~~ control circuitry coupled to the AC electrical circuit.
17. (Original) The method of claim 10 in which the actuator converts the current into the force to move the contacts in a linear direction relative to one another.

18. (Currently amended) An actuator control system for an AC electrical circuit, the actuator control system comprising:

an actuator interface that connects to an actuator that converts current into a force to move contacts relative to one another to switch power on and off in the AC electrical circuit;

an input interface that connects to a source that operates to supply current to the actuator;
and

a controller connected to the actuator interface and to the input interface to control the current ~~to~~ through the actuator based on information about the actuator, in which actuator information includes one or more of velocity information and position information such that the current ~~to~~ through the actuator is independent of ~~a voltage produced by the actuator during switching and~~ a voltage at which the source operates.

19. (Original) The system of claim 18 further comprising an amplifier that controls the current from the source to the actuator.

20. (Currently amended) The system of claim 19 in which the controller is configured to:

sense voltage from the source, and
provide information about the sensed voltage to the amplifier to control the current to the actuator.

21. (Original) The system of claim 18 in which the source operates at a voltage that is greater than the voltage produced by the actuator during switching.

22. (Original) The system of claim 18 in which the actuator switches power on and off in the AC electrical circuit by moving at least one of the contacts away from the other contact.

23. (Original) The system of claim 18 in which the contacts are connected to the AC electrical circuit such that when the contacts touch, current flows through the AC electrical circuit.

24. (Original) The system of claim 18 in which the controller senses the voltage provided by the source.

25. (Currently amended) The system of claim 18 in which the actuator control system is connected to control circuitry that is connected to the ~~contacts~~ AC electrical circuit; in which control of the actuator current is based on information from the control circuitry.

26. (New) The system of claim 1 wherein the actuator information indicates information about the contacts.

27. (New) The method of claim 10 wherein actuator information indicates information about the contacts.

28. (New) The system of claim 18 wherein actuator information indicates information about the contacts.